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Robert P Renke Artz & Artz Suite 250 28333 Telegraph Road Southfield, MI 48034			EXAMINER LUONG, VINH	
			ART UNIT 3682	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/519,280

Applicant(s)

WEISS ET AL.

Examiner

Vinh T. Luong

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3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23, 26-34, 36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23, 26-34, 36, 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.


**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
Vinh T. Luong  
Primary Examiner

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: Attachments 1 and 2.

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1. The preliminary amendment filed on December 22, 2004 has been entered.
2. The drawings are objected to because the drawings are not in compliance with 37 CFR

1.84. See examples:

(a) The same part of the invention must always be designated by the same reference character. 37 CFR 1.84(p)(4). However, FIG. 2 shows that Applicant uses different reference characters 41 and 42 to show the same part;

(b) In FIG. 2, there are two lead lines that lack reference characters. 37 CFR 1.84(q);

(c) Every line, number, and letter must be durable, clean, black, sufficiently dense and dark, uniformly thick and well-defined. See Form PTO-948 attached;

(d) Each part of the invention, such as, the envelope of the apical segments in Claim 6, the envelopes in Claim 7, two heating elements in Claim 10, and at least two layers in Claim 11 should be designated by a reference character; and

(e) Reference character 46 appears in FIG. 2, however, it is not mentioned in the specification. See 37 CFR 1.84(p)(5).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. *The objection to the drawings will not be held in abeyance.*

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because of the objection above. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. *The requirement for corrected drawings will not be held in abeyance.*

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed features, such as, *e.g.*, the envelope of the apical segments in Claim 6, the envelopes in Claim 7, two heating elements in Claim 10, and at least two layers in Claim 11 must be shown or the features canceled from the claims. No new matter should be entered.

FIGS. 1 and 2 show only one layer of heating element 4.

5. The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (a) each foreign patent; (b) each publication or that portion which caused it to be listed; (c) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed

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including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (d) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

6. The disclosure is objected to because of the informalities, *e.g.*, listed below:

(a) Each part of the invention, such as, the width in paragraph [0036] of the specification, the envelope of the apical segments in Claim 6, the envelopes in Claim 7, two heating elements in Claim 10, at least two layers in Claim 11, and the widening or greater thickness part of material of metallization of the contacting locations in Claim 20 should be designated by a reference character; and

(b) The specification uses the same reference character, *e.g.*, "48" to designate different things, such as, the outer radius and the connecting segment. See paragraph [0036] of the specification.

Appropriate correction is required.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 6, 7, 10-13, 16, 17, and 29-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 6 recites "an envelope of the apical segments (45) arranged on one side of the direction of lengthwise extension of the heating element *overlap*, said apical segments (45) each remaining distanced from each other." (Reference characters and emphasis added). Similarly, Claim 7 recites "envelopes." However, FIGS. 1 and 2 do not show the claimed envelope(s). Moreover, none of the apical segments 45 are overlapped as seen in the drawings. It is unclear as to how Applicant makes/uses the envelope(s) as claimed.

Claim 10 recites "two heating elements, each arranged in a circumferential segment of a hand grip position." In the instant case, the specification (paragraph [0034]+) describes and the drawings show only one heating element 4. It is unclear as to how Applicant makes/uses two heating elements as claimed.

Claim 11 and its dependent claims recite "the heating element comprises at least two layers connected to each other." Nevertheless, the drawings show that the heating element 4 consists of one layer. It is unclear as to how Applicant makes/uses at least two layers as claimed.

Claim 12 recites "the electrically conductive layer is applied to an insulating support layer and connected thereto" and Claim 13 recites "the insulating support layer is made of

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synthetic material.” However, FIG. 2 shows that the conductive layer 41 and the insulating layer 42 are the same. It is unclear as to how Applicant makes/uses the insulating support layer.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-23, 26-34, 36, and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear:

(a) Whether a confusing variety of terms, such as, (1) “a heating element” and “an electrically conductive layer” in Claims 1 and 5/1; (2) “electrically conductive layer” and “an insulating support layer” in Claims 12 and 36; (3) “an electrically conductive cable connection” and “supply lines” in Claim 22/21/19/1; (4) “a grip surface” and “an outer grip surface” in Claim 28; and (5) “a steering wheel rim” and “a grip surface” in Claim 34 refer to the same or different things. The drawings show that: (1) the conductive layer 41 is the same as the insulating support layer 42 (FIG. 2); and (2) the cable connection 62 is the same as the supply line 61 (FIG. 1). See MPEP 608.01(o) and double inclusion in MPEP 2173.05(o). Applicant is respectfully urged to identify each claimed element with reference to the drawings;

(b) Whether the term that appears at least twice, such as, “a heating element” in Claim 8/1 refers to the same or different things. See double inclusion in MPEP 2173.05(o). Applicant is respectfully urged to identify each claimed element with reference to the drawings; and

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(c) Which structures defined the claimed elements, such as, the envelope in Claim 6, the envelopes in Claim 7, two heating elements in Claim 10, and at least two layers in Claim 11. Applicant is respectfully urged to identify each claimed element with reference to the drawings.

The term such as “*can be cropped*” in Claim 37 is vague and indefinite in the sense that things which may be done are not required to be done. For example, the heating element can be, but is not required structurally to be cropped therefrom. See “discordable” in *Mathis v. Hydro Air Industries*, 1 USPQ2d 1513, 1527 (D.C. Calif. 1986), “crimpable” in *Application of Collier*, 158 USPQ 266 (CCPA 1968), “removable” in *In re Burke Inc.*, 22 USPQ2d 1368, 1372 (D.C. Calif. 1992), and “comparable” in *Ex parte Anderson*, 21 USPQ2d 1241, 1249 (BPAI 1992).

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. For examples: (a) the term “apical segments” in Claim 5 should have been changed to “the apical segments”; and (b) the recitation “each comprise” in Claim 20 should have been changed to “each comprises.”

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.



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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1-10, 14, 15, 19-23, 26-28, 34, and 36, as best understood, are rejected under 35 U.S.C. 103(a) as being obvious over Nagele (US Patent No. 6,838,647 B2 filed on May 24, 2002).

The applied reference has a common inventor, Peter Nagele, with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding Claim 1, Nagele teaches a heating element (FIG. 2) comprising an electrically conductive layer 1 with a meandering contour (id. col. 2, line 56+) along a lengthwise direction of the heating element, wherein the heating element is cropped from a substantially continuous segment and wherein the electrically conductive layer 1, at its apical segments (at 4 in FIG. 2,

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see Attachment 1 hereinafter "Att. 1"), is widened in each instance compared to a connecting segment (at 10 in FIG. 2, see Att. 1).

Nagele teaches the invention substantially as claimed. Moreover, Nagele suggests that the heating element is for a steering wheel in col. 2, line 44+.

It is common knowledge in the art to form Nagele's steering wheel such that it has a padding and a grip surface at least partly covering the padding. In fact, the steering wheel that has the padding and the grip surface at least partly covering the padding is notoriously well known as evidenced by the art cited. See, e.g., the padding 5, 6 and grip surface 21 in US Patent No. 4,631,976 issued to Noda et al., and the padding 38 and grip surface 21 in US Patent No. 6,495,799 B1 issued to Pillsbury et al.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Nagele's heating element with the steering wheel having the padding and grip surface as taught or suggested by common knowledge in the art.

Regarding Claim 2, the electrically conductive layer 1 is an integral constituent of the heating element.

Regarding Claim 3, the meandering contour of Nagele's heating element includes an undulating profile.

Regarding Claim 4, Nagele's meandering contour (FIG. 2) of the heating element includes a rectangular, saw tooth or triangular profile.

Regarding Claim 5, the apical segments (Att. 1) of the electrically conductive layer 1 or the heating element, comprise a rounding radius.

Regarding Claim 6, an envelope 4, 30 (FIG. 3) of the apical segments (Att. 1) arranged on one side of the direction 9 of lengthwise extension of the heating element 1 overlaps (FIG. 2), said apical segments (Att. 1) each remains distanced from each other.

Regarding Claim 7, envelopes 4, 30 of the apical segments (Att. 1) arranged on either side of the direction 9 of lengthwise extension of the heating element 1 are distanced from each other.

Regarding Claim 8, Nagele's heating element is capable of running around the entire circumference of the steering wheel. Note that the heating element, which runs around the entire circumference of the steering wheel, is notoriously well known. See, e.g., FR 2 682 071 of Bruno.

Regarding Claim 9, Nagele suggests the heating element that runs around a peripheral segment of the steering wheel, cutting out a lower segment between handgrip positions in col. 3, line 4+. On the other hand, the heating element that runs around a peripheral segment of the steering wheel, cutting out a lower segment between handgrip positions is notoriously well known. See, e.g., US Patent No. 4,631,976 issued to Noda et al.

Regarding Claim 10, Nagele suggests the use of two heating elements, each arranged in a circumferential segment of a hand grip position in col. 3, line 12+. On the other hand, the use of two heating elements, each arranged in a circumferential segment of a hand grip position is notoriously well known. See, e.g., US Patent No. 4,631,976 issued to Noda et al.

Regarding Claims 14 and 15, Nagele's electrically conductive layer 1 comprises metal and metal inherently includes copper, copper alloy, aluminum, or aluminum alloy. Ibid. col. 2, line 60+.

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Regarding Claim 19, the electrically conductive layer 1 comprises a plurality contacting locations 18 and 20 for connection of supply lines.

Regarding Claim 20, the contacting locations 18 and 20, each comprises a thickening in the form of a *widening* of material of metallization as seen in FIG. 2.

Regarding Claim 21, the heating element comprises two electric contactings 18 and 20.

Regarding Claim 22, at each electric contacting 18, 20, an electrically conductive cable connection or supply line 18, 29 is provided. See col. 4, line 9+.

Regarding Claims 23, 26, and 27, note that the determination of patentability is based on the product itself, not by its method of production. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985), *SmithKline Beecham Corp. v. Apotex Corp.*, 78 USPQ2d 1097 (Fed. Cir. 2006), and MPEP 2113.

Regarding Claim 28, the outer grip surface of the steering wheel that comprises natural or artificial leather is notoriously well known. See, e.g., leather 86 in col. 6, line 1 of US Patent No. 6,495,799 B1.

Regarding Claim 34, the heating element 1 is adapted to a predetermined diameter and thickness of a steering wheel rim. *Ibid.* col. 3, line 6+.

Regarding Claim 36, Nagele teaches a heating element comprising an electrically conductive layer 1 with a meandering contour along a lengthwise direction of the heating element and applied to an insulating support layer, the electrically conductive layer including alternating apical segments and connecting segments, the apical segments being *wider* than the connecting segments, wherein the heating element runs around at least a peripheral segment of

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the steering wheel and wherein the meandering contour is substantially continuous and repeating as seen in FIGS. 1 and 2.

Nagele teaches the invention substantially as claimed. Moreover, Nagele suggests that the heating element is for a steering wheel in col. 2, line 44+.

It is common knowledge in the art to form Nagele's steering wheel such that it has a padding and a grip surface at least partly covering the padding. In fact, the steering wheel that has the padding and the grip surface at least partly covering the padding is notoriously well known as evidenced by the art cited. See, e.g., the padding 5, 6 and grip surface 21 in US Patent No. 4,631,976 issued to Noda et al., and the padding 38 and grip surface 21 in US Patent No. 6,495,799 B1 issued to Pillsbury et al.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Nagele's heating element with the steering wheel having the padding and grip surface as taught or suggested by common knowledge in the art.

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claim 37, as best understood, is rejected under 35 U.S.C. 102(e) as being anticipated by Nagele (US Patent No. 6,838,647 B2).

The applied reference has a common inventor Nagele with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

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102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Nagele teaches a heating element for a vehicle steering wheel comprising: an electrically conductive layer 1 with a meandering contour along a lengthwise direction of the heating element 1 and applied to an insulating support layer 4 (FIG. 3, col. 3, line 28+), the electrically conductive layer 1 including alternating apical segments (Att. 1) and connecting segments (Att. 1), the apical segments (Att. 1) being *wider* than the connecting segments (Att. 1), wherein the meandering contour is formed as a substantially continuous segment such that heating element segments *can be* cropped therefrom.

Note that Nagele’s layer 4 is made of synthetic or plastic material, thus, it is inherently an insulating layer since plastic or synthetic material is insulation.

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1-4, 6-9, 19-23, 26-28, 34, 36, and 37, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Carrier (US Patent No. 5,294,775).

Regarding Claim 1, Carrier teaches a steering wheel 14 comprising:

a padding 68;

a grip surface 66 at least partly covering the padding 68; and

a heating element 70 arranged between the padding 68 and the grip surface 66, the heating element 70 comprising an electrically conductive layer 70 with a meandering contour along a lengthwise direction of the heating element 70, wherein the heating element 70 is cropped from a substantially continuous segment (FIGS. 3, 7, 17 and 18. See col. 4, line 31+ and Claim 2) and wherein the electrically conductive layer 70, at its apical segments (at “70” in FIG. 17), is widened in each instance compared to a connecting segment (unnumbered in FIG. 17, see Attachment 2 hereinafter “Att. 2”).

Note that Carrier teaches two layers 68 as seen in FIG. 18. The first (bottom) layer 68 (Att. 2) “reads on” the claimed padding. Applicant’s Claim 1 is anticipated by Carrier since each claimed element is “fully met” by Carrier. It is well settled that anticipation law requires distinction be made between invention described or taught and invention claimed. It does not require that the reference “teach” what subject patent application teaches, it is only necessary that the claim under attack, as construed by the Court, “*read on*” something disclosed in the reference, *i.e.*, all limitations of the claim are found in reference, or are “*fully met*” by it. *Kalman v. Kimberly Clark Corp.*, 218 USPQ 781, 789 (CAFC 1983).

Regarding Claim 2, the electrically conductive layer 70 is an integral constituent of the heating element.

Regarding Claim 3, the meandering contour of Carrier’s heating element 70 includes an undulating profile.

Regarding Claim 4, Carrier’s meandering contour of the heating element includes a rectangular, saw tooth or triangular profile.

Regarding Claim 6, an envelope (Att. 2) of the apical segments (Att. 2) arranged on one side of the direction of lengthwise extension of the heating element 70 overlaps (FIG. 17), said apical segments (Att. 2) each remains distanced from each other.

Regarding Claim 7, the envelopes (Att. 2) of the apical segments (Att. 2) arranged on either side of the direction of lengthwise extension of the heating element 70 are distanced from each other.

Regarding Claim 8, Carrier's heating element 70 is capable of running around the entire circumference of the steering wheel (FIG. 19).

Regarding Claim 9, Carrier's heating element 70 is capable of running around a peripheral segment of the steering wheel, cutting out a lower segment between handgrip positions.

Regarding Claim 19, the electrically conductive layer 70 comprises a plurality contacting locations (Att. 2) for connection of supply lines 67.

Regarding Claim 20, the contacting locations (Att. 2), each comprises a thickening in the form of a *widening* of material of metallization as seen in FIG. 17.

Regarding Claim 21, the heating element comprises two electric contactings (Att. 2).

Regarding Claim 22, at each electric contacting (Att. 2), an electrically conductive cable connection or supply line 67 is provided.

Regarding Claims 23, 26, and 27, note that the determination of patentability is based on the product itself, not by its method of production. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985), *SmithKline Beecham Corp. v. Apotex Corp.*, 78 USPQ2d 1097 (Fed. Cir. 2006), and MPEP 2113.



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Regarding Claim 28, the outer grip surface 66 comprises natural or artificial leather.

*Ibid.* col. 4, line 37.

Regarding Claim 34, the heating element 1 is adapted to a predetermined diameter and thickness of a steering wheel rim 16.

Regarding Claim 36, Carrier teaches an electrically heatable steering wheel 14 for a vehicle comprising:

a padding 68;

a grip surface 66 at least partly covering the padding 68; and

a heating element comprising an electrically conductive layer 70 with a meandering contour along a lengthwise direction of the heating element 70 and applied to an insulating support layer 68, the electrically conductive layer 70 including alternating apical segments (Att. 2) and connecting segments (Att. 2), the apical segments being *wider* than the connecting segments, wherein the heating element 70 runs around at least a peripheral segment of the steering wheel 14 and wherein the meandering contour is substantially continuous and repeating.

Note that Carrier teaches two layers 68 as seen in FIG. 18. The first (bottom) layer 68 (Att. 2) “reads on” the claimed padding and the second (top) layer 68 (Att. 2) “reads on” the claimed insulating support layer. Applicant’s Claim 36 is anticipated by Carrier since each claimed element is “fully met” by Carrier. *Kalman v. Kimberly Clark Corp., supra.*

Regarding Claim 37, Carrier teaches a heating element 68, 70 for a vehicle steering wheel 14 comprising: an electrically conductive layer 70 with a meandering contour along a lengthwise direction of the heating element 68, 70 and applied to an insulating support layer 68, the electrically conductive layer 70 including alternating apical segments (Att. 2) and connecting

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segments (Att. 2), the apical segments (Att. 2) being *wider* than the connecting segments (Att. 2), wherein the meandering contour is formed as a substantially continuous segment such that heating element segments *can be* cropped therefrom.

18. Claims 5, 10, 14, and 15, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrier.

Regarding Claim 5, Carrier teaches the invention substantially as claimed. However, Carrier's apical segments of the electrically conductive layer 70 or the heating element 70, comprise a square shape instead of a rounding radius shape.

It is common knowledge in the art to change the shape of Carrier's apical segments of the electrically conductive layer or the heating element to the rounding radius shape in order to transmit the heat to the steering wheel grip surface. The rounding radius shape is notoriously well known in steering wheel art (e.g., see US Patent No. 6,326,593 B1 issued to Bonn et al. and US Patent No. 6,512,202 B2 issued to Haag et al.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to change the shape of Carrier's apical segments of the electrically conductive layer or the heating element to the rounding radius shape in order to transmit the heat to the steering wheel grip surface as taught or suggested by common knowledge in the art. Alternatively, to change the shape of Carrier's apical segments of the electrically conductive layer or the heating element to the rounding radius shape would have been matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995) citing *In re Gal*, 980 F.2d 717, 719,

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25 USPQ2d 1076, 1078 (Fed. Cir. 1992). See also legal precedent regarding changes in shape in MPEP 2144.04.

Regarding Claim 10, Carrier teaches the invention substantially as claimed. However, Carrier apparently uses one heating element instead of two heating elements.

It is common knowledge in the art to change one heating element of Carrier to two heating elements, each arranged in a circumferential segment of a hand grip position in order to transmit the heat to the steering wheel grip surface. The use of two heating elements, each arranged in a circumferential segment of a hand grip position is notoriously well known. See, e.g., US Patent No. 4,631,976.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to change one heating element of Carrier to two heating elements, each arranged in a circumferential segment of a hand grip position in order to transmit the heat to the steering wheel grip surface as taught or suggested by common knowledge in the art. Alternatively, to change one heating element of Carrier to two heating elements, each arranged in a circumferential segment of a hand grip position would have been matter of choice in design since the claimed structures and the function they perform are the same as the prior art. See *Sjolund v. Musland*, 6 USPQ2d 2020, 2026 (CAFC).

Regarding Claims 14 and 15, Carrier teaches the invention substantially as claimed. However, Carrier does not explicitly teach copper, copper alloy, aluminum, or aluminum alloy materials for conductive layer.

It is common knowledge to select copper, copper alloy, aluminum, or aluminum alloy as the material for making Carrier's conductive layer. The metallic foil, such as, copper, copper

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alloy, aluminum, or aluminum alloy is notoriously well known in the heating art. See, e.g., US Patent No. 3,757,087 issued to Bernard and US Patent No. 4,176,445 issued to Solow. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the well known metallic material, such as, copper, copper alloy, aluminum, or aluminum alloy as the material for making Carrier's conductive layer in order to conduct the heat to the steering wheel grip surface as taught or suggest by common knowledge in the art. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960) cited in MPEP 2144.07.

19. Claims 11-13, 16, 17, and 29-33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

20. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Pillsbury et al. (FIG. 2).

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 571-272-7109. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Luong

July 6, 2007

A handwritten signature in black ink, appearing to read 'Vinh T. Luong', with a long horizontal line extending to the right.

Vinh T. Luong  
Primary Examiner

# **ATTACHMENT 1**

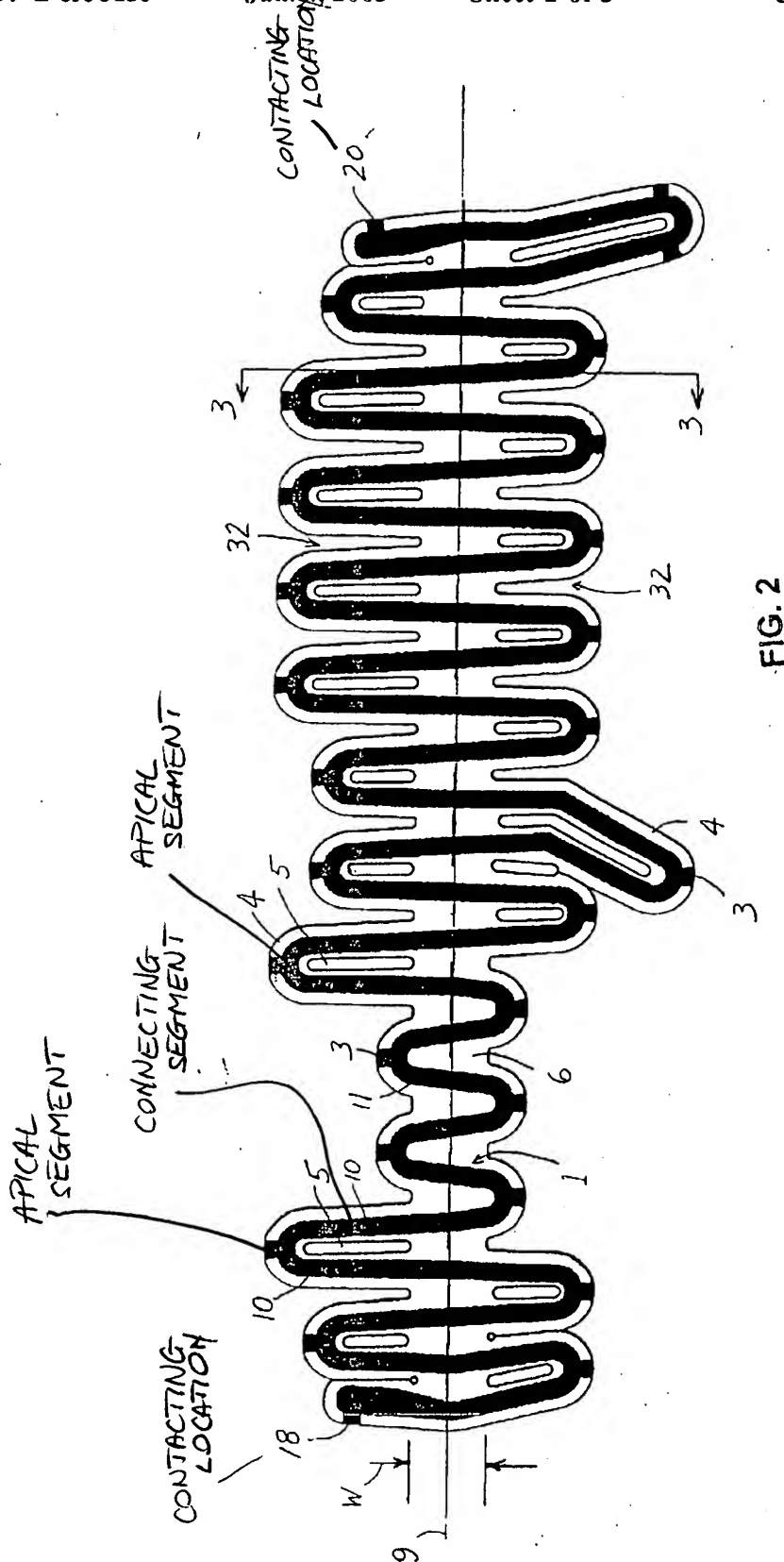


FIG. 2

# **ATTACHMENT 2**



